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HOUSEKEEPERS' CHAT

TUESDAY, April 19, 1938.

(FOR BROADCAST USE ONLY)

SUEJECT: "FOODS AND COOKERY QUESTIONS." Information from the Office of Experiment Stations, United States Department of Agriculture.

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As usual questions about food and cooking fill the mailbag this week. Listeners are asking about roasting meat and frying potatoes, baking cake and buying lima beans, and--but there. Suppose I take up the questions and their answers one at a time.

The first inquiry comes from a listener who likes her roast beef tender. She asks: "Please tell me whether the temperature of the oven has anything to do with how tender the roast is when it is cooked. In other words, which gives the more tender meat--a hot oven or a slow oven?"

This happens to be a question that foods scientists at the Texas Experiment Station have been trying to answer in their recent studies on meat cookery. They are still at work on this problem but so far their findings show that you will have a better chance of getting a tender roast if you cook at low heat--that is, if your oven registers about 260 degrees Fahrenheit than if you have a hot oven. A low temperature is especially important if you are roasting one of the less tender cuts of beef--a chuck roast, for example. Of course, if you use low heat, your roast will take considerably longer to cook. But the tenderness should be worth the extra time. The Texas people found that a chuck roast cooked in a slow oven might take as much as 6 hours to become tender while a rib roast might take only about 3 hours and a leg of lamb less than 2.

Second question. Another listener writes: "When I go to buy my Sunday rib roast of beef, the butcher always asks whether I want it boned and rolled or standing. He says a rolled roast is easier to carve. My husband argues that a standing roast tastes better--has more flavor. Can you give me any information as to which is better?"

Answer: I think you will be interested in what investigators at the Minnesota Experiment Station learned when they looked into this question. They report that standing rib roasts appear to be juicier than rolled roasts, and that the juice seems to be slightly richer. They also say that, pound for pound, standing roasts take less time to cook than rolled roasts. But as for flavor, they report no difference in the flavor of these roasts.

Perhaps you would like to know how the Minnesota people made this comparison of standing and rolled roasts. They used rib cuts from both the right and the left side of the same animal, preparing one side as a boned and rolled roast and the other side as a standing roast. They cooked both kinds of roasts in exactly the same way at the same temperature. They used both an oven thermometer and a meat thermometer in the roast. They cooked the meat at a constant oven temperature of 300 degrees Fahrenheit until the



internal temperature of the meat was 137 degrees F. Then they tasted and judged each roast for flavor, tenderness and so on, according to the standard score card of the Cooking Committee of the Cooperative Meat Investigations. They also kept a record of how much weight the roasts lost by evaporation and how much by "drippings."

So from this study it appears that leaving the bones in a rib roast makes for more juicy meat, and juice that is slightly richer. It also means that, pound for pound, the roast cooks faster.

Turning now from meat questions to potato questions, let me read you a letter about making potato chips. "Please tell me," says this letter-- "please tell me if it is ever possible to make chips successfully from potatoes that have become sweet in storage."

As you probably know, listeners, potatoes stored in too cold a place change some of their starch to sugar. And when a potato has accumulated considerable sugar, it won't fry well--at least, won't make good potato chips. The sugar in the potato tends to caramelize in the hot fat and makes the chip too dark in color and often "scorched" in flavor. But fortunately potatoes that have become sweet in storage can be reconditioned. If they are in a warmer place for a long time, some of the sugar goes back into starch.

But sometimes you haven't the time or place to recondition them this way. Then how to make chips successfully? The Minnesota Experiment Station has an answer. They have discovered that if you fry the chips in fat that is not so hot, you can avoid this unpleasant browning. They found that potatoes containing considerable sugar would make good chips if dropped in fat that registered only 325 degrees Fahrenheit, and continued frying at only 270 degrees Fahrenheit. Frying at this lower temperature, of course, takes longer.

Now for a question about the pan for baking cake. Writes a listener: "Will you tell me whether the material of the baking pan has anything to do with success in cake making?"

Answer: Here's what they found out about that at the Kansas Station. They baked the same cake mixture in enamel, glass, aluminum and tin, using the same oven temperature, of course. And they found that cakes baked in enamel and glass were much tougher, had a much browner crust, and during baking become much hotter than those cakes baked in aluminum or tin. So the Kansas people advise that if you bake cake in enameledware or glass pans, you'll be wise to have a slightly cooler oven and bake a shorter time.

Last question. A housewife who wants her money's worth of vitamins from the vegetables she buys asks whether there is any difference in food value between shelled and unshelled lima beans.

Answer: At the New York State Station they have been making studies of the vitamin C content of fresh vegetables. And they have found that green lima beans are an exceptionally good source of vitamin C and that they keep that vitamin very well as long as they are in the pod. But when they are shelled, the loss of vitamin C is rapid. Even when they are shelled and put in moisture-proof packages, the beans lose about twice as much vitamin C as those kept in the pod.

So if you value your vitamin C, and incidentally, flavor, you'll buy your beans in the pod and keep them in the refrigerator until just before using. Or, if you have them in your garden, pick and shell them just before time to cook them.

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